**3GPP TSG-SA5 Meeting #133e *S5-205077r1***

**e-meeting 12th Oct-21st Oct 2020** Revision of S5-20xxxx

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v11.4* | | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | | |
|  | | | | | | | | | |
|  | **32.291** | **CR** | **0276** | **rev** | **1** | **Current version:** | **16.5.1** |  |
|  | | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | | |
|  | | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Support the QoS assurance | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei | | | | | | | | | |
| ***Source to TSG:*** | S5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI16, 5GS\_Ph1-SBI\_CH | | | | |  | ***Date:*** | | | 2019-10-15 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-16 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) Rel-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | The QoS information is required when CHF authorizes the quota. As per the current specifications, the PDU Session Information includes the default QoS information (Authorized QoS Information to PDU sesssion and Subscribed QoS Information), which may not be the QoS information corresponding to the current Rating Group. Propose to add the QoS information for quota request. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Add the QoS information in the Requested Unit. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Can not support the quoa authorization based on the QoS information. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 6.1.6.2.1.9,7.2,A.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |

|  |
| --- |
| **First change** |

###### 6.1.6.2.1.9 Type RequestedUnit

Table 6.1.6.2.1.9-1: Definition of type RequestedUnit

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| time | Uint32 | OC | 0..1 | This field holds the amount of requested time. |  |
| totalVolume | Uint64 | OC | 0..1 | This field holds the amount of requested volume in both uplink and downlink directions. |  |
| uplinkVolume | Uint64 | OC | 0..1 | This field holds the amount of requested volume in uplink direction. |  |
| downlinkVolume | Uint64 | OC | 0..1 | This field holds the amount of requested volume in downlink direction. |  |
| pDUContainerInformation | PDUContainerInformation | OC | 0..1 | This field holds the pDUContainerInformation for requesting units, corresponding to the Rating Group. Only the QoS information is applicable. |  |
| serviceSpecificUnits | Uint64 | OC | 0..1 | This field holds the amount of requested service specific units. |  |
| NOTE 1: f none of them is included, "RequestedUnit": {}, the category and amount is determined by CHF for online charging with centralized unit determination and rating scenario. | | | | | |

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| **Next change** |

## 7.2 Bindings for 5G data connectivity

Table 7.2-1: Bindings of 5G data connectivity CDR field, Information Element and Resource Attribute

| Information Element | | CDR Field | | Resource Attribute | |
| --- | --- | --- | --- | --- | --- |
|  | |  | | **ChargingDataRequest** | |
| Multiple Unit Usage | | List of Multiple Unit Usage | | /multipleUnitUsage | |
| UPF ID | | UPF ID | | /multipleUnitUsage/uPFID | |
| Requested Unit | | - | | /multipleUnitUsage/requestedUnit | |
| PDU Container Information | | - | | /multipleUnitUsage/requestedUnit/pDUContainerInformation | |
| Used Unit Container | | Used Unit Container | | /multipleUnitUsage/usedUnitContainer | |
| PDU Container Information | | PDU Container Information | | /multipleUnitUsage/usedUnitContainer/pDUContainerInformation | |
| Time of First Usage | | Time of First Usage | | /multipleUnitUsage/usedUnitContainer/pDUContainerInformation/timeofFirstUsage | |
| Time of Last Usage | | Time of Last Usage | | /multipleUnitUsage/usedUnitContainer/pDUContainerInformation/timeofLastUsage | |
| QoS Information | | QoS Information | | /multipleUnitUsage/usedUnitContainer/pDUContainerInformation/qoSInformation | |
| QoS Characteristics | | QoS Characteristics | | /multipleUnitUsage/usedUnitContainer/pDUContainerInformation/qoSCharacteristics | |
| AF Charging Identifier | | AF Charging Identifier | | /multipleUnitUsage/usedUnitContainer/pDUContainerInformation/afChargingIdentifier | |
| AF Charging Id String | | AF Charging Id String | | /multipleUnitUsage/usedUnitContainer/pDUContainerInformation/afChargingIdString | |
| User Location Information | | User Location Information | | /multipleUnitUsage/usedUnitContainer/pDUContainerInformation/userLocationInformation | |
| UE Time Zone | | UE Time Zone | | /multipleUnitUsage/usedUnitContainer/pDUContainerInformation/uetimeZone | |
| RAT Type | | RAT Type | | /multipleUnitUsage/usedUnitContainer/pDUContainerInformation/rATType | |
| Serving Network Function ID | | Serving Network Function ID | | /multipleUnitUsage/usedUnitContainer/pDUContainerInformation/servingNodeID | |
| Presence Reporting Area Information | | Presence Reporting Area  Information | | /multipleUnitUsage/usedUnitContainer/pDUContainerInformation/ presenceReportingAreaInformation | |
| 3GPP PS Data Off Status | | 3GPP PS Data Off Status | | /multipleUnitUsage/usedUnitContainer/pDUContainerInformation/3gppPSDataOffStatus | |
| Sponsor Identity | | Sponsor Identity | | /multipleUnitUsage/usedUnitContainer/pDUContainerInformation/sponsorIdentity | |
| Application Service Provider Identity | | Application Service Provider  Identity | | /multipleUnitUsage/usedUnitContainer/pDUContainerInformation/applicationserviceProviderIdentity | |
| Charging Rule Base Name | | Charging Rule Base Name | | /multipleUnitUsage/usedUnitContainer/pDUContainerInformation/chargingRuleBaseName | |
| PDU Session Charging Information | | PDU Session Charging Information | | /pDUSessionChargingInformation | |
| Charging Id | | Charging Id | | /pDUSessionChargingInformation/chargingId | |
| Home Provided ChargingId | | Home Provided ChargingId | | /pDUSessionChargingInformation/ homeProvidedChargingId | |
| User Information | | User Information | | /pDUSessionChargingInformation/ userInformation | |
| User Identifier | | User Identifier | | /pDUSessionChargingInformation/userInformation/servedGPSI | |
| User Equipment Info | | User Equipment Info | | /pDUSessionChargingInformation/userInformation/ servedPEI | |
| Unauthenticated Flag | | Unauthenticated Flag | | /pDUSessionChargingInformation/userInformation/ unauthenticatedFlag | |
| Roamer In Out | | Roamer In Out | | /pDUSessionChargingInformation/userInformation/ roamerInOut | |
| User Location Info | | User Location Info | | /pDUSessionChargingInformation/ userLocationinfo | |
| UE Time Zone | | UE Time Zone | | /pDUSessionChargingInformation/uEtimeZone | |
| Presence Reporting Area  Information | | Presence Reporting Area  Information | | /pDUSessionChargingInformation/ presenceReportingAreaInformation | |
| PDU Session Information | | PDU Session Information | | /pDUSessionChargingInformation/pduSessionInformation | |
| PDU Session ID | | PDU Session ID | | /pDUSessionChargingInformation/pduSessionInformation/pduSessionID | |
| Network Slice Instance  Identifier | | Network Slice Instance Identifier | | /pDUSessionChargingInformation/pduSessionInformation/networkSlicingInfo | |
| PDU Type | | PDU Type | | /pDUSessionChargingInformation /pduSessionInformation/pduType | |
| PDU Address | | PDU Address | | /pDUSessionChargingInformation /pduSessionInformation/pduAddress | |
| PDU IPv4 Address | | PDU IPv4 Address | | /pDUSessionChargingInformation/pduSessionInformation/pduAddress/pduIPv4Address | |
| PDU IPv6 Address with  prefix | | PDU IPv6 Address with prefix | | /pDUSessionChargingInformation/pduSessionInformation/pduAddress/pduIPv6Addresswithprefix | |
| PDU Address prefix length | | PDU Address prefix length | | /pDUSessionChargingInformation /pduSessionInformation/pduAddress/pduAddressprefixlength | |
| IPv4 Dynamic Address  Flag | | IPv4 Dynamic Address Flag | | /pDUSessionChargingInformation /pduSessionInformation/pduAddress/ iPv4dynamicAddressFlag | |
| IPv6Dynamic Address Flag | | IPv6 Dynamic Address Flag | | pDUSessionChargingInformation /pduSessionInformation/pduAddress/ iPv6dynamicAddressFlag | |
| SSC Mode | | SSC Mode | | /pDUSessionChargingInformation /pduSessionInformation/sscMode | |
| SUPI PLMN ID | | SUPI PLMN ID | | /pDUSessionChargingInformation /pduSessionInformation/hPlmnId | |
| Serving Network Function ID | | Serving Network Function ID | | /pDUSessionChargingInformation /pduSessionInformation/ servingNetworkFunctionID | |
| Serving CN PLMN ID | | Serving CN PLMN ID | | /pDUSessionChargingInformation/pduSessionInformation/servingCNPlmnId | |
| RAT Type | | RAT Type | | /pDUSessionChargingInformation /pduSessionInformation/ratType | |
| Data Network Name Identifier | | Data Network Name Identifier | | /pDUSessionChargingInformation /pduSessionInformation/dnnid | |
| DNN Selection Mode | | DNN Selection Mode | | /pDUSessionChargingInformation /pduSessionInformation/dNNselectionMode | |
| Authorized QoS information | | Authorized Qos Information | | /pDUSessionChargingInformation /pduSessionInformation/authorized qoSInformation | |
| Subscribed QoS Information | | Subscribed QoS Information | | /pDUSessionChargingInformation /pduSessionInformation/subscribedQoSInformation | |
| Authorized Session-AMBR | | Authorized Session-AMBR | | /pDUSessionChargingInformation /pduSessionInformation/authorizedSessionAMBR | |
| Subscribed Session-AMBR | | Subscribed Session-AMBR | | /pDUSessionChargingInformation /pduSessionInformation/subscribedSessionAMBR | |
| Charging Characteristics | | Charging Characteristics | | /pDUSessionChargingInformation /pduSessionInformation/ chargingCharacteristics | |
| Charging Characteristics  Selection Mode | | Charging Characteristics Selection Mode | | /pDUSessionChargingInformation /pduSessionInformation/chargingCharacteristicsSelectionMode | |
| PDU session start Time | | PDU session start Time | | /pDUSessionChargingInformation /pduSessionInformation/startTime | |
| PDU session stop Time | | PDU session stop Time | | /pDUSessionChargingInformation /pduSessionInformation/stopTime | |
| Diagnostics | | Diagnostics | | /pDUSessionChargingInformation /pduSessionInformation/diagnostics | |
| 3GPP PS Data Off Status | | 3GPP PS Data Off Status | | /pDUSessionChargingInformation /pduSessionInformation/3gppPSDataOffStatus | |
| Session Stop Indicator | | Session Stop Indicator | | /pDUSessionChargingInformation /pduSessionInformation/sessionStopIndicator | |
| Unit Count Inactivity Timer | | - | | /pDUSessionChargingInformation/unitCountInactivityTimer | |
| RAN Secondary RAT Usage Report | | RAN Secondary RAT Usage Report | | /pDUSessionChargingInformation/rANSecondaryRATUsageReport | |
| NG RAN Secondary RAT Type | | NG RAN Secondary RAT Type | | /pDUSessionChargingInformation/rANSecondaryRATUsageReport/rANSecondaryRATType | |
| Qos Flows Usage Reports | | Qos Flows Usage Reports | | /pDUSessionChargingInformation/rANSecondaryRATUsageReport/qosFlowsUsageReports | |
| Roaming QBC information | | Roaming QBC information | | /roamingQBCInformation | |
| Multiple QFI container | | Multiple QFI container | | /roamingQBCInformation/multipleQFIcontainer | |
| Triggers | | Triggers | | /roamingQBCInformation/multipleQFIcontainer/triggers | |
| Trigger Timestamp | | Trigger Timestamp | | /roamingQBCInformation/multipleQFIcontainer/triggerTimestamp | |
| Time | | Time | | /roamingQBCInformation/multipleQFIcontainer/time | |
| Total Volume | | Total Volume | | /roamingQBCInformation/multipleQFIcontainer/totalVolume | |
| Uplink Volume | | Uplink Volume | | /roamingQBCInformation/multipleQFIcontainer/uplinkVolume | |
| Downlink Volume | | Downlink Volume | | /roamingQBCInformation/multipleQFIcontainer/downlinkVolume | |
| Local Sequence Number | | Local Sequence Number | | /roamingQBCInformation/multipleQFIcontainer/localSequenceNumber | |
| QFI Container information | | QFI Container information | | /roamingQBCInformation/multipleQFIcontainer/qFIContainerInformation | |
| QoS Flow Id | | QoS Flow Id | | /roamingQBCInformation/multipleQFIcontainer/ qFIContainerInformation/qFI | |
| Time of First Usage | | Time of First Usage | | /roamingQBCInformation/multipleQFIcontainer/qFIContainerInformation/ timeofFirstUsage | |
| Time of Last Usage | | Time of Last Usage | | /roamingQBCInformation/multipleQFIcontainer/qFIContainerInformation/timeofLastUsage | |
| QoS Information | | QoS Information | | /roamingQBCInformation/multipleQFIcontainer/qFIContainerInformation/qoSInformation | |
| QoS Characteristics | | QoS Characteristics | | /roamingQBCInformation/multipleQFIcontainer/ qFIContainerInformation/qoSCharacteristics | |
| User Location Information | | User Location Information | | /roamingQBCInformation/multipleQFIcontainer/qFIContainerInformation/ userLocationInformation | |
| UE Time Zone | | UE Time Zone | | /roamingQBCInformation/multipleQFIcontainer/qFIContainerInformation/uetimeZone | |
| Presence Reporting Area Information | | Presence Reporting Area Information | | /roamingQBCInformation/multipleQFIcontainer/qFIContainerInformation/presenceReportingAreaInformation | |
| RAT Type | | RAT Type | | /roamingQBCInformation/multipleQFIcontainer/qFIContainerInformation/rATType | |
| Report Time | | Report Time | | /roamingQBCInformation/multipleQFIcontainer/ qFIContainerInformation/reportTime | |
| Serving Network Function ID | | Serving Network Function ID | | /roamingQBCInformation/multipleQFIcontainer/qFIContainerInformation/ servingNetworkFunctionID | |
| 3GPP PS Data Off Status | | 3GPP PS Data Off Status | | /roamingQBCInformation/multipleQFIcontainer/qFIContainerInformation/3gppPSDataOffStatus | |
| EPS bearer Charging Id | | EPS bearer Charging Id | | /roamingQBCInformation/multipleQFIcontainer/qFIContainerInformation/3gppChargingId | |
| Diagnostics | | Diagnostics | | /roamingQBCInformation/multipleQFIcontainer/qFIContainerInformation/diagnostics | |
| Enhanced Diagnostics | | Enhanced Diagnostics | | /roamingQBCInformation/multipleQFIcontainer/qFIContainerInformation/enhancedDiagnostics | |
| UPF ID | | UPF ID | | /roamingQBCInformation/uPFID | |
| Roaming Charging Profile | | Roaming Charging Profile | | /roamingQBCInformation/roamingChargingProfile | |
| Trigger | | Trigger | | /roamingQBCInformationroamingChargingProfile/trigger | |
| Partial record method | | Partial record method | | /roamingQBCInformation/roamingChargingProfile/partialRecordMethod | |
|  | |  | | **ChargingDataResponse** | |
| Multiple Unit information | | - | | /multipleUnitInformation | |
| UPF ID | | - | | /multipleUnitInformation/uPFID | |

|  |
| --- |
| **Next change** |

## A.2 Nchf\_ConvergedCharging API

openapi: 3.0.0

info:

title: Nchf\_ConvergedCharging

version: 3.0.0

description: |

ConvergedCharging Service © 2019, 3GPP Organizational Partners (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC).

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externalDocs:

description: >

3GPP TS 32.291 V16.5.0: Telecommunication management; Charging management;

5G system, charging service; Stage 3.

url: 'http://www.3gpp.org/ftp/Specs/archive/32\_series/32.291/'

servers:

- url: '{apiRoot}/nchf-convergedcharging/v3'

variables:

apiRoot:

default: https://example.com

description: apiRoot as defined in subclause 4.4 of 3GPP TS 29.501.

security:

- {}

- oAuth2ClientCredentials:

- nchf-convergedcharging

paths:

/chargingdata:

post:

requestBody:

required: true

content:

application/json:

schema:

$ref: '#/components/schemas/ChargingDataRequest'

responses:

'201':

description: Created

content:

application/json:

schema:

$ref: '#/components/schemas/ChargingDataResponse'

'400':

description: Bad request

content:

application/problem+json:

schema:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

'403':

description: Forbidden

content:

application/problem+json:

schema:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

'404':

description: Not Found

content:

application/problem+json:

schema:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'410':

$ref: 'TS29571\_CommonData.yaml#/components/responses/410'

'411':

$ref: 'TS29571\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29571\_CommonData.yaml#/components/responses/413'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29571\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29571\_CommonData.yaml#/components/responses/default'

callbacks:

chargingNotification:

'{$request.body#/notifyUri}':

post:

requestBody:

required: true

content:

application/json:

schema:

$ref: '#/components/schemas/ChargingNotifyRequest'

responses:

'204':

description: 'No Content, Notification was succesfull'

'400':

description: Bad request

content:

application/problem+json:

schema:

$ref: >-

TS29571\_CommonData.yaml#/components/schemas/ProblemDetails

default:

$ref: 'TS29571\_CommonData.yaml#/components/responses/default'

'/chargingdata/{ChargingDataRef}/update':

post:

requestBody:

required: true

content:

application/json:

schema:

$ref: '#/components/schemas/ChargingDataRequest'

parameters:

- name: ChargingDataRef

in: path

description: a unique identifier for a charging data resource in a PLMN

required: true

schema:

type: string

responses:

'200':

description: OK. Updated Charging Data resource is returned

content:

application/json:

schema:

$ref: '#/components/schemas/ChargingDataResponse'

'400':

description: Bad request

content:

application/problem+json:

schema:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

'403':

description: Forbidden

content:

application/problem+json:

schema:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

'404':

description: Not Found

content:

application/problem+json:

schema:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'410':

$ref: 'TS29571\_CommonData.yaml#/components/responses/410'

'411':

$ref: 'TS29571\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29571\_CommonData.yaml#/components/responses/413'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29571\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29571\_CommonData.yaml#/components/responses/default'

'/chargingdata/{ChargingDataRef}/release':

post:

requestBody:

required: true

content:

application/json:

schema:

$ref: '#/components/schemas/ChargingDataRequest'

parameters:

- name: ChargingDataRef

in: path

description: a unique identifier for a charging data resource in a PLMN

required: true

schema:

type: string

responses:

'204':

description: No Content.

'404':

description: Not Found

content:

application/problem+json:

schema:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'410':

$ref: 'TS29571\_CommonData.yaml#/components/responses/410'

'411':

$ref: 'TS29571\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29571\_CommonData.yaml#/components/responses/413'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29571\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29571\_CommonData.yaml#/components/responses/default'

components:

securitySchemes:

oAuth2ClientCredentials:

type: oauth2

flows:

clientCredentials:

tokenUrl: '{nrfApiRoot}/oauth2/token'

scopes:

nchf-convergedcharging: Access to the Nchf\_ConvergedCharging API

schemas:

ChargingDataRequest:

type: object

properties:

subscriberIdentifier:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Supi'

tenantIdentifier:

type: string

mnSConsumerIdentifier:

type: string

nfConsumerIdentification:

$ref: '#/components/schemas/NFIdentification'

invocationTimeStamp:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

invocationSequenceNumber:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

retransmissionIndicator:

type: boolean

oneTimeEvent:

type: boolean

oneTimeEventType:

$ref: '#/components/schemas/oneTimeEventType'

notifyUri:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uri'

supportedFeatures:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

serviceSpecificationInfo:

type: string

multipleUnitUsage:

type: array

items:

$ref: '#/components/schemas/MultipleUnitUsage'

minItems: 0

triggers:

type: array

items:

$ref: '#/components/schemas/Trigger'

minItems: 0

pDUSessionChargingInformation:

$ref: '#/components/schemas/PDUSessionChargingInformation'

roamingQBCInformation:

$ref: '#/components/schemas/RoamingQBCInformation'

sMSChargingInformation:

$ref: '#/components/schemas/SMSChargingInformation'

nEFChargingInformation:

$ref: '#/components/schemas/NEFChargingInformation'

registrationChargingInformation:

$ref: '#/components/schemas/RegistrationChargingInformation'

n2ConnectionChargingInformation:

$ref: '#/components/schemas/N2ConnectionChargingInformation'

locationReportingChargingInformation:

$ref: '#/components/schemas/LocationReportingChargingInformation'

nSPAChargingInformation:

$ref: '#/components/schemas/NSPAChargingInformation'

nSMChargingInformation:

$ref: '#/components/schemas/NSMChargingInformation'

required:

- nfConsumerIdentification

- invocationTimeStamp

- invocationSequenceNumber

ChargingDataResponse:

type: object

properties:

invocationTimeStamp:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

invocationSequenceNumber:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

invocationResult:

$ref: '#/components/schemas/InvocationResult'

sessionFailover:

$ref: '#/components/schemas/SessionFailover'

supportedFeatures:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

multipleUnitInformation:

type: array

items:

$ref: '#/components/schemas/MultipleUnitInformation'

minItems: 0

triggers:

type: array

items:

$ref: '#/components/schemas/Trigger'

minItems: 0

pDUSessionChargingInformation:

$ref: '#/components/schemas/PDUSessionChargingInformation'

roamingQBCInformation:

$ref: '#/components/schemas/RoamingQBCInformation'

required:

- invocationTimeStamp

- invocationSequenceNumber

ChargingNotifyRequest:

type: object

properties:

notificationType:

$ref: '#/components/schemas/NotificationType'

reauthorizationDetails:

type: array

items:

$ref: '#/components/schemas/ReauthorizationDetails'

minItems: 0

required:

- notificationType

ChargingNotifyResponse:

type: object

properties:

invocationResult:

$ref: '#/components/schemas/InvocationResult'

NFIdentification:

type: object

properties:

nFName:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfInstanceId'

nFIPv4Address:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv4Addr'

nFIPv6Address:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Addr'

nFPLMNID:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PlmnId'

nodeFunctionality:

$ref: '#/components/schemas/NodeFunctionality'

nFFqdn:

type: string

required:

- nodeFunctionality

MultipleUnitUsage:

type: object

properties:

ratingGroup:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/RatingGroup'

requestedUnit:

$ref: '#/components/schemas/RequestedUnit'

usedUnitContainer:

type: array

items:

$ref: '#/components/schemas/UsedUnitContainer'

minItems: 0

uPFID:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfInstanceId'

required:

- ratingGroup

InvocationResult:

type: object

properties:

error:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

failureHandling:

$ref: '#/components/schemas/FailureHandling'

Trigger:

type: object

properties:

triggerType:

$ref: '#/components/schemas/TriggerType'

triggerCategory:

$ref: '#/components/schemas/TriggerCategory'

timeLimit:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DurationSec'

volumeLimit:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

volumeLimit64:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint64'

maxNumberOfccc:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

required:

- triggerType

- triggerCategory

MultipleUnitInformation:

type: object

properties:

resultCode:

$ref: '#/components/schemas/ResultCode'

ratingGroup:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/RatingGroup'

grantedUnit:

$ref: '#/components/schemas/GrantedUnit'

triggers:

type: array

items:

$ref: '#/components/schemas/Trigger'

minItems: 0

validityTime:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DurationSec'

quotaHoldingTime:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DurationSec'

finalUnitIndication:

$ref: '#/components/schemas/FinalUnitIndication'

timeQuotaThreshold:

type: integer

volumeQuotaThreshold:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint64'

unitQuotaThreshold:

type: integer

uPFID:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfInstanceId'

required:

- ratingGroup

RequestedUnit:

type: object

properties:

time:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

totalVolume:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint64'

uplinkVolume:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint64'

downlinkVolume:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint64'

serviceSpecificUnits:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint64'

pDUContainerInformation:

$ref: '#/components/schemas/PDUContainerInformation'

UsedUnitContainer:

type: object

properties:

serviceId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/ServiceId'

quotaManagementIndicator:

$ref: '#/components/schemas/QuotaManagementIndicator'

triggers:

type: array

items:

$ref: '#/components/schemas/Trigger'

minItems: 0

triggerTimestamp:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

time:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

totalVolume:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint64'

uplinkVolume:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint64'

downlinkVolume:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint64'

serviceSpecificUnits:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint64'

eventTimeStamps:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

minItems: 0

localSequenceNumber:

type: integer

pDUContainerInformation:

$ref: '#/components/schemas/PDUContainerInformation'

nSPAContainerInformation:

$ref: '#/components/schemas/NSPAContainerInformation'

required:

- localSequenceNumber

GrantedUnit:

type: object

properties:

tariffTimeChange:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

time:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

totalVolume:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint64'

uplinkVolume:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint64'

downlinkVolume:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint64'

serviceSpecificUnits:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint64'

FinalUnitIndication:

type: object

properties:

finalUnitAction:

$ref: '#/components/schemas/FinalUnitAction'

restrictionFilterRule:

$ref: '#/components/schemas/IPFilterRule'

filterId:

type: string

redirectServer:

$ref: '#/components/schemas/RedirectServer'

required:

- finalUnitAction

RedirectServer:

type: object

properties:

redirectAddressType:

$ref: '#/components/schemas/RedirectAddressType'

redirectServerAddress:

type: string

required:

- redirectAddressType

- redirectServerAddress

ReauthorizationDetails:

type: object

properties:

serviceId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/ServiceId'

ratingGroup:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/RatingGroup'

quotaManagementIndicator:

$ref: '#/components/schemas/QuotaManagementIndicator'

PDUSessionChargingInformation:

type: object

properties:

chargingId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/ChargingId'

homeProvidedChargingId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/ChargingId'

userInformation:

$ref: '#/components/schemas/UserInformation'

userLocationinfo:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/UserLocation'

mAPDUNon3GPPUserLocationInfo:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/UserLocation'

presenceReportingAreaInformation:

type: object

additionalProperties:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PresenceInfo'

minProperties: 0

uetimeZone:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/TimeZone'

pduSessionInformation:

$ref: '#/components/schemas/PDUSessionInformation'

unitCountInactivityTimer:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DurationSec'  
 rANSecondaryRATUsageReport:

$ref: '#/components/schemas/RANSecondaryRATUsageReport'

UserInformation:

type: object

properties:

servedGPSI:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Gpsi'

servedPEI:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Pei'

unauthenticatedFlag:

type: boolean

roamerInOut:

$ref: '#/components/schemas/RoamerInOut'

PDUSessionInformation:

type: object

properties:

networkSlicingInfo:

$ref: '#/components/schemas/NetworkSlicingInfo'

pduSessionID:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PduSessionId'

pduType:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PduSessionType'

sscMode:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/SscMode'

hPlmnId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PlmnId'

servingNetworkFunctionID:

$ref: '#/components/schemas/ServingNetworkFunctionID'

ratType:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/RatType'

mAPDUNon3GPPRATType:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/RatType'

dnnId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Dnn'

dnnSelectionMode:

$ref: '#/components/schemas/dnnSelectionMode'

chargingCharacteristics:

type: string

pattern: '^[0-9a-fA-F]{1,4}$'

chargingCharacteristicsSelectionMode:

$ref: '#/components/schemas/ChargingCharacteristicsSelectionMode'

startTime:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

stopTime:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

3gppPSDataOffStatus:

$ref: '#/components/schemas/3GPPPSDataOffStatus'

sessionStopIndicator:

type: boolean

pduAddress:

$ref: '#/components/schemas/PDUAddress'

diagnostics:

$ref: '#/components/schemas/Diagnostics'

authorizedQoSInformation:

$ref: 'TS29512\_Npcf\_SMPolicyControl.yaml#/components/schemas/AuthorizedDefaultQos'

subscribedQoSInformation:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/SubscribedDefaultQos'

authorizedSessionAMBR:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ambr'

subscribedSessionAMBR:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ambr'

servingCNPlmnId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PlmnId'

mAPDUSessionInformation:

$ref: '#/components/schemas/MAPDUSessionInformation'

required:

- pduSessionID

- dnnId

PDUContainerInformation:

type: object

properties:

timeofFirstUsage:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

timeofLastUsage:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

qoSInformation:

$ref: 'TS29512\_Npcf\_SMPolicyControl.yaml#/components/schemas/QosData'

qoSCharacteristics:

$ref: 'TS29512\_Npcf\_SMPolicyControl.yaml#/components/schemas/QosCharacteristics'

afChargingIdentifier:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/ChargingId'

afChargingIdString:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/ApplicationChargingId'

userLocationInformation:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/UserLocation'

uetimeZone:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/TimeZone'

rATType:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/RatType'

servingNodeID:

type: array

items:

$ref: '#/components/schemas/ServingNetworkFunctionID'

minItems: 0

presenceReportingAreaInformation:

type: object

additionalProperties:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PresenceInfo'

minProperties: 0

3gppPSDataOffStatus:

$ref: '#/components/schemas/3GPPPSDataOffStatus'

sponsorIdentity:

type: string

applicationserviceProviderIdentity:

type: string

chargingRuleBaseName:

type: string

mAPDUSteeringFunctionality:

$ref: 'TS29512\_Npcf\_SMPolicyControl.yaml#/components/schemas/SteeringFunctionality'

mAPDUSteeringMode:

$ref: 'TS29512\_Npcf\_SMPolicyControl.yaml#/components/schemas/SteeringMode'

NSPAContainerInformation:

type: object

properties:

latency:

type: integer

throughput:

$ref: '#/components/schemas/Throughput'

maximumPacketLossRate:

type: string

serviceExperienceStatisticsData:

$ref: 'TS29520\_CommonData.yaml#/components/schemas/ServiceExperienceInfo'

theNumberOfPDUSessions:

type: integer

theNumberOfRegisteredSubscribers:

type: integer

loadLevel:

$ref: 'TS29520\_CommonData.yaml#/components/schemas/NsiLoadLevelInfo'

NSPAChargingInformation:

type: object

properties:

singleNSSAI:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Snssai'

required:

- sNSSAI

NetworkSlicingInfo:

type: object

properties:

sNSSAI:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Snssai'

required:

- sNSSAI

PDUAddress:

type: object

properties:

pduIPv4Address:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv4Addr'

pduIPv6AddresswithPrefix:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Addr'

pduAddressprefixlength:

type: integer

iPv4dynamicAddressFlag:

type: boolean

iPv6dynamicPrefixFlag:

type: boolean

ServingNetworkFunctionID:

type: object

properties:

servingNetworkFunctionInformation:

$ref: '#/components/schemas/NFIdentification'

aMFId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/AmfId'

required:

- servingNetworkFunctionInformation

RoamingQBCInformation:

type: object

properties:

multipleQFIcontainer:

type: array

items:

$ref: '#/components/schemas/MultipleQFIcontainer'

minItems: 0

uPFID:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfInstanceId'

roamingChargingProfile:

$ref: '#/components/schemas/RoamingChargingProfile'

MultipleQFIcontainer:

type: object

properties:

triggers:

type: array

items:

$ref: '#/components/schemas/Trigger'

minItems: 0

triggerTimestamp:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

time:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

totalVolume:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint64'

uplinkVolume:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint64'

downlinkVolume:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint64'

localSequenceNumber:

type: integer

qFIContainerInformation:

$ref: '#/components/schemas/QFIContainerInformation'

required:

- localSequenceNumber

QFIContainerInformation:

type: object

properties:

qFI:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Qfi'

reportTime:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

timeofFirstUsage:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

timeofLastUsage:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

qoSInformation:

$ref: 'TS29512\_Npcf\_SMPolicyControl.yaml#/components/schemas/QosData'

qoSCharacteristics:

$ref: 'TS29512\_Npcf\_SMPolicyControl.yaml#/components/schemas/QosCharacteristics'

userLocationInformation:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/UserLocation'

uetimeZone:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/TimeZone'

presenceReportingAreaInformation:

type: object

additionalProperties:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PresenceInfo'

minProperties: 0

rATType:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/RatType'

servingNetworkFunctionID:

type: array

items:

$ref: '#/components/schemas/ServingNetworkFunctionID'

minItems: 0

3gppPSDataOffStatus:

$ref: '#/components/schemas/3GPPPSDataOffStatus'

3gppChargingId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/ChargingId'

diagnostics:

$ref: '#/components/schemas/Diagnostics'

enhancedDiagnostics:

type: array

items:

type: string

required:

- reportTime

RoamingChargingProfile:

type: object

properties:

triggers:

type: array

items:

$ref: '#/components/schemas/Trigger'

minItems: 0

partialRecordMethod:

$ref: '#/components/schemas/PartialRecordMethod'

SMSChargingInformation:

type: object

properties:

originatorInfo:

$ref: '#/components/schemas/OriginatorInfo'

recipientInfo:

type: array

items:

$ref: '#/components/schemas/RecipientInfo'

minItems: 0

userEquipmentInfo:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Pei'

userLocationinfo:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/UserLocation'

uetimeZone:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/TimeZone'

rATType:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/RatType'

sMSCAddress:

type: string

sMDataCodingScheme:

type: integer

sMMessageType:

$ref: '#/components/schemas/SMMessageType'

sMReplyPathRequested:

$ref: '#/components/schemas/ReplyPathRequested'

sMUserDataHeader:

type: string

sMStatus:

type: string

sMDischargeTime:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

numberofMessagesSent:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

sMServiceType:

$ref: '#/components/schemas/SMServiceType'

sMSequenceNumber:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

sMSresult:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

submissionTime:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

sMPriority:

$ref: '#/components/schemas/SMPriority'

messageReference:

type: string

messageSize:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

messageClass:

$ref: '#/components/schemas/MessageClass'

deliveryReportRequested:

$ref: '#/components/schemas/DeliveryReportRequested'

OriginatorInfo:

type: object

properties:

originatorSUPI:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Supi'

originatorGPSI:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Gpsi'

originatorOtherAddress:

$ref: '#/components/schemas/SMAddressInfo'

originatorReceivedAddress:

$ref: '#/components/schemas/SMAddressInfo'

originatorSCCPAddress:

type: string

sMOriginatorInterface:

$ref: '#/components/schemas/SMInterface'

sMOriginatorProtocolId:

type: string

RecipientInfo:

type: object

properties:

recipientSUPI:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Supi'

recipientGPSI:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Gpsi'

recipientOtherAddress:

$ref: '#/components/schemas/SMAddressInfo'

recipientReceivedAddress:

$ref: '#/components/schemas/SMAddressInfo'

recipientSCCPAddress:

type: string

sMDestinationInterface:

$ref: '#/components/schemas/SMInterface'

sMrecipientProtocolId:

type: string

SMAddressInfo:

type: object

properties:

sMaddressType:

$ref: '#/components/schemas/SMAddressType'

sMaddressData:

type: string

sMaddressDomain:

$ref: '#/components/schemas/SMAddressDomain'

RecipientAddress:

type: object

properties:

recipientAddressInfo:

$ref: '#/components/schemas/SMAddressInfo'

sMaddresseeType:

$ref: '#/components/schemas/SMAddresseeType'

MessageClass:

type: object

properties:

classIdentifier:

$ref: '#/components/schemas/ClassIdentifier'

tokenText:

type: string

SMAddressDomain:

type: object

properties:

domainName:

type: string

3GPPIMSIMCCMNC:

type: string

SMInterface:

type: object

properties:

interfaceId:

type: string

interfaceText:

type: string

interfacePort:

type: string

interfaceType:

$ref: '#/components/schemas/InterfaceType'

RANSecondaryRATUsageReport:

type: object

properties:

rANSecondaryRATType:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/RatType'

qosFlowsUsageReports:

type: array

items:

$ref: '#/components/schemas/QosFlowsUsageReport'

Diagnostics:

type: integer

IPFilterRule:

type: string

QosFlowsUsageReport:

type: object

properties:

qFI:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Qfi'

startTimestamp:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

endTimestamp:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

uplinkVolume:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint64'

downlinkVolume:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint64'

NEFChargingInformation:

type: object

properties:

groupIdentifier:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/GroupId'

aPIDirection:

$ref: '#/components/schemas/APIDirection'

aPITargetNetworkFunction:

$ref: '#/components/schemas/NFIdentification'

aPIResultCode:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

aPIName:

type: string

aPIReference:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uri'

aPIContent:

type: string

required:

- aPIName

RegistrationChargingInformation:

type: object

properties:

registrationMessagetype:

$ref: '#/components/schemas/RegistrationMessageType'

userInformation:

$ref: '#/components/schemas/UserInformation'

userLocationinfo:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/UserLocation'

uetimeZone:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/TimeZone'

rATType:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/RatType'

5GMMCapability:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Bytes'

mICOModeIndication:

$ref: '#/components/schemas/MICOModeIndication'

smsIndication:

$ref: '#/components/schemas/SmsIndication'

taiList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Tai'

minItems: 0

serviceAreaRestriction:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/ServiceAreaRestriction'

minItems: 0

requestedNSSAI:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Snssai'

minItems: 0

allowedNSSAI:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Snssai'

minItems: 0

rejectedNSSAI:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Snssai'

minItems: 0

required:

- registrationMessagetype

N2ConnectionChargingInformation:

type: object

properties:

n2ConnectionMessageType:

$ref: '#/components/schemas/N2ConnectionMessageType'

userInformation:

$ref: '#/components/schemas/UserInformation'

userLocationinfo:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/UserLocation'

uetimeZone:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/TimeZone'

rATType:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/RatType'

amfUeNgapId:

type: integer

ranUeNgapId:

type: integer

ranNodeId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/GlobalRanNodeId'

restrictedRatList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/RatType'

minItems: 0

forbiddenAreaList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Area'

minItems: 0

serviceAreaRestriction:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/ServiceAreaRestriction'

minItems: 0

restrictedCnList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/CoreNetworkType'

minItems: 0

allowedNSSAI:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Snssai'

minItems: 0

rrcEstCause:

type: string

pattern: '^[0-9a-fA-F]+$'

required:

- n2ConnectionMessageType

LocationReportingChargingInformation:

type: object

properties:

locationReportingMessageType:

$ref: '#/components/schemas/LocationReportingMessageType'

userInformation:

$ref: '#/components/schemas/UserInformation'

userLocationinfo:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/UserLocation'

uetimeZone:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/TimeZone'

rATType:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/RatType'

presenceReportingAreaInformation:

type: object

additionalProperties:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PresenceInfo'

minProperties: 0

required:

- locationReportingMessageType

N2ConnectionMessageType:

type: integer

LocationReportingMessageType:

type: integer

NSMChargingInformation:

type: object

properties:

managementOperation:

$ref: '#/components/schemas/ManagementOperation'

idNetworkSliceInstance:

type: string

listOfserviceProfileChargingInformation:

type: array

items:

$ref: '#/components/schemas/ServiceProfileChargingInformation'

minItems: 0

managementOperationStatus:

$ref: '#/components/schemas/ManagementOperationStatus'

# To be introduced once the reference to 'generic.yaml is resolved

# managementOperationalState:

# $ref: 'genericNrm.yaml#/components/schemas/OperationalState'

# managementAdministrativeState:

# $ref: 'genericNrm.yaml#/components/schemas/AdministrativeState'

required:

- managementOperation

ServiceProfileChargingInformation:

type: object

properties:

serviceProfileIdentifier:

type: string

sNSSAIList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Snssai'

minItems: 0

# To be introduced once the reference to 'nrNrm.yaml is resolved

# sST:

# $ref: 'nrNrm.yaml#/components/schemas/Sst'

latency:

type: integer

availability:

type: number

# To be introduced once the reference to sliceNrm.yaml is resolved

# resourceSharingLevel:

# $ref: 'sliceNrm.yaml#/components/schemas/SharingLevel'

jitter:

type: integer

reliability:

type: string

maxNumberofUEs:

type: integer

coverageArea:

type: string

# To be introduced once the reference to sliceNrm.yaml is resolved

# uEMobilityLevel:

# $ref: 'sliceNrm.yaml#/components/schemas/MobilityLevel'

# delayToleranceIndicator:

# $ref: 'sliceNrm.yaml#/components/schemas/Support'

dLThptPerSlice:

$ref: '#/components/schemas/Throughput'

dLThptPerUE:

$ref: '#/components/schemas/Throughput'

uLThptPerSlice:

$ref: '#/components/schemas/Throughput'

uLThptPerUE:

$ref: '#/components/schemas/Throughput'

maxNumberofPDUsessions:

type: integer

kPIMonitoringList:

type: string

supportedAccessTechnology:

type: integer

# To be introduced once the reference to sliceNrm.yaml is resolved

# v2XCommunicationModeIndicator:

# $ref: 'sliceNrm.yaml#/components/schemas/Support'

addServiceProfileInfo:

type: string

Throughput:

type: object

properties:

guaranteedThpt:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Float'

maximumThpt:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Float'

MAPDUSessionInformation:

type: object

properties:

mAPDUSessionIndicator:

$ref: 'TS29512\_Npcf\_SMPolicyControl.yaml#/components/schemas/MaPduIndication'

aTSSSCapability:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/AtsssCapability'

NotificationType:

anyOf:

- type: string

enum:

- REAUTHORIZATION

- ABORT\_CHARGING

- type: string

NodeFunctionality:

anyOf:

- type: string

enum:

- AMF

- SMF

- SMSF

- SGW

- I\_SMF

- ePDG

- CEF

- type: string

ChargingCharacteristicsSelectionMode:

anyOf:

- type: string

enum:

- HOME\_DEFAULT

- ROAMING\_DEFAULT

- VISITING\_DEFAULT

- type: string

TriggerType:

anyOf:

- type: string

enum:

- QUOTA\_THRESHOLD

- QHT

- FINAL

- QUOTA\_EXHAUSTED

- VALIDITY\_TIME

- OTHER\_QUOTA\_TYPE

- FORCED\_REAUTHORISATION

- UNUSED\_QUOTA\_TIMER # Included for backwards compatibility, shall not be used

- UNIT\_COUNT\_INACTIVITY\_TIMER

- ABNORMAL\_RELEASE

- QOS\_CHANGE

- VOLUME\_LIMIT

- TIME\_LIMIT

- EVENT\_LIMIT

- PLMN\_CHANGE

- USER\_LOCATION\_CHANGE

- RAT\_CHANGE

- SESSION\_AMBR\_CHANGE

- UE\_TIMEZONE\_CHANGE

- TARIFF\_TIME\_CHANGE

- MAX\_NUMBER\_OF\_CHANGES\_IN\_CHARGING\_CONDITIONS

- MANAGEMENT\_INTERVENTION

- CHANGE\_OF\_UE\_PRESENCE\_IN\_PRESENCE\_REPORTING\_AREA

- CHANGE\_OF\_3GPP\_PS\_DATA\_OFF\_STATUS

- SERVING\_NODE\_CHANGE

- REMOVAL\_OF\_UPF

- ADDITION\_OF\_UPF

- INSERTION\_OF\_ISMF

- REMOVAL\_OF\_ISMF

- CHANGE\_OF\_ISMF

- START\_OF\_SERVICE\_DATA\_FLOW

- ECGI\_CHANGE

- TAI\_CHANGE

- HANDOVER\_CANCEL

- HANDOVER\_START

- HANDOVER\_COMPLETE

- GFBR\_GUARANTEED\_STATUS\_CHANGE

- ADDITION\_OF\_ACCESS

- REMOVAL\_OF\_ACCESS

- START\_OF\_SDF\_ADDITIONAL\_ACCESS

- type: string

FinalUnitAction:

anyOf:

- type: string

enum:

- TERMINATE

- REDIRECT

- RESTRICT\_ACCESS

- type: string

RedirectAddressType:

anyOf:

- type: string

enum:

- IPV4

- IPV6

- URL

- type: string

TriggerCategory:

anyOf:

- type: string

enum:

- IMMEDIATE\_REPORT

- DEFERRED\_REPORT

- type: string

QuotaManagementIndicator:

anyOf:

- type: string

enum:

- ONLINE\_CHARGING

- OFFLINE\_CHARGING

- QUOTA\_MANAGEMENT\_SUSPENDED

- type: string

FailureHandling:

anyOf:

- type: string

enum:

- TERMINATE

- CONTINUE

- RETRY\_AND\_TERMINATE

- type: string

SessionFailover:

anyOf:

- type: string

enum:

- FAILOVER\_NOT\_SUPPORTED

- FAILOVER\_SUPPORTED

- type: string

3GPPPSDataOffStatus:

anyOf:

- type: string

enum:

- ACTIVE

- INACTIVE

- type: string

ResultCode:

anyOf:

- type: string

enum:

- SUCCESS

- END\_USER\_SERVICE\_DENIED

- QUOTA\_MANAGEMENT\_NOT\_APPLICABLE

- QUOTA\_LIMIT\_REACHED

- END\_USER\_SERVICE\_REJECTED

- USER\_UNKNOWN

- RATING\_FAILED

- QUOTA\_MANAGEMENT

- type: string

PartialRecordMethod:

anyOf:

- type: string

enum:

- DEFAULT

- INDIVIDUAL

- type: string

RoamerInOut:

anyOf:

- type: string

enum:

- IN\_BOUND

- OUT\_BOUND

- type: string

SMMessageType:

anyOf:

- type: string

enum:

- SUBMISSION

- DELIVERY\_REPORT

- SM\_SERVICE\_REQUEST

- type: string

SMPriority:

anyOf:

- type: string

enum:

- LOW

- NORMAL

- HIGH

- type: string

DeliveryReportRequested:

anyOf:

- type: string

enum:

- YES

- NO

- type: string

InterfaceType:

anyOf:

- type: string

enum:

- UNKNOWN

- MOBILE\_ORIGINATING

- MOBILE\_TERMINATING

- APPLICATION\_ORIGINATING

- APPLICATION\_TERMINATING

- type: string

ClassIdentifier:

anyOf:

- type: string

enum:

- PERSONAL

- ADVERTISEMENT

- INFORMATIONAL

- AUTO

- type: string

SMAddressType:

anyOf:

- type: string

enum:

- EMAIL\_ADDRESS

- MSISDN

- IPV4\_ADDRESS

- IPV6\_ADDRESS

- NUMERIC\_SHORTCODE

- ALPHANUMERIC\_SHORTCODE

- OTHER

- IMSI

- type: string

SMAddresseeType:

anyOf:

- type: string

enum:

- TO

- CC

- BCC

- type: string

SMServiceType:

anyOf:

- type: string

enum:

- VAS4SMS\_SHORT\_MESSAGE\_CONTENT\_PROCESSING

- VAS4SMS\_SHORT\_MESSAGE\_FORWARDING

- VAS4SMS\_SHORT\_MESSAGE\_FORWARDING\_MULTIPLE\_SUBSCRIPTIONS

- VAS4SMS\_SHORT\_MESSAGE\_FILTERING

- VAS4SMS\_SHORT\_MESSAGE\_RECEIPT

- VAS4SMS\_SHORT\_MESSAGE\_NETWORK\_STORAGE

- VAS4SMS\_SHORT\_MESSAGE\_TO\_MULTIPLE\_DESTINATIONS

- VAS4SMS\_SHORT\_MESSAGE\_VIRTUAL\_PRIVATE\_NETWORK(VPN)

- VAS4SMS\_SHORT\_MESSAGE\_AUTO\_REPLY

- VAS4SMS\_SHORT\_MESSAGE\_PERSONAL\_SIGNATURE

- VAS4SMS\_SHORT\_MESSAGE\_DEFERRED\_DELIVERY

- type: string

ReplyPathRequested:

anyOf:

- type: string

enum:

- NO\_REPLY\_PATH\_SET

- REPLY\_PATH\_SET

- type: string

oneTimeEventType:

anyOf:

- type: string

enum:

- IEC

- PEC

- type: string

dnnSelectionMode:

anyOf:

- type: string

enum:

- VERIFIED

- UE\_DNN\_NOT\_VERIFIED

- NW\_DNN\_NOT\_VERIFIED

- type: string

APIDirection:

anyOf:

- type: string

enum:

- INVOCATION

- NOTIFICATION

- type: string

RegistrationMessageType:

anyOf:

- type: string

enum:

- INITIAL

- MOBILITY

- PERIODIC

- EMERGENCY

- DEREGISTRATION

- type: string

MICOModeIndication:

anyOf:

- type: string

enum:

- MICO\_MODE

- NO\_MICO\_MODE

- type: string

SmsIndication:

anyOf:

- type: string

enum:

- SMS\_SUPPORTED

- SMS\_NOT\_SUPPORTED

- type: string

ManagementOperation:

anyOf:

- type: string

enum:

- CreateMOI

- ModifyMOIAttributes

- DeleteMOI

- type: string

ManagementOperationStatus:

anyOf:

- type: string

enum:

- OPERATION\_SUCCEEDED

- OPERATION\_FAILED

- type: string

|  |
| --- |
| **End of change** |